

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification:</b> <b>C07K 1/00, A61K 38/00, 39/00, 39/02, 39/116, 45/00, 39/085</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 00/23462</b> <b>(43) International Publication Date:</b> 27 April 2000 (27.04.00)
<b>(21) International Application Number:</b> PCT/US99/24931 <b>(22) International Filing Date:</b> 21 October 1999 (21.10.99) <b>(30) Priority Data:</b> 60/105,085 21 October 1998 (21.10.98) US 60/136,754 1 June 1999 (01.06.99) US <b>(71) Applicant (for all designated States except US):</b> ST. LOUIS UNIVERSITY [US/US]; 3635 Vista Avenue at Grand Boulevard, St. Louis, MO 63110-0250 (US). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> PICKING, William, D. [US/US]; 344 Cattlemen Trail, Lawrence, KS 66045 (US). PICKING, Wendy, D. [US/US]; 344 Cattlemen Trail, Lawrence, KS 66045 (US). OAKS, Edwin, V. [US/US]; 3106 Arrowhead Farms Road, Gambrills, MD 21054 (US). <b>(74) Agents:</b> BUTLER, James, E. et al.; Senniger, Powers, Leavitt & Roedel, 16th Floor, One Metropolitan Square, St. Louis, MO 63102 (US).		<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> METHOD FOR THE PRODUCTION OF PURIFIED INVASIN PROTEIN AND USE THEREOF <b>(57) Abstract</b> A method for production of highly purified invasin proteins is disclosed. Also disclosed are vaccine and adjuvant compositions comprising highly purified invasin proteins and the use of highly purified adjuvant proteins to induce an immune response and for administration of drugs.		